

Triclosan Resolution

(to be adopted by local jurisdictions, institutions and companies)

Additional information can be obtained at

<http://www.beyondpesticides.org/antibacterial/triclosan.htm>

Whereas, the use of triclosan is associated with adverse health effects.

Triclosan is associated with contact dermatitis, or skin irritation¹ photoallergic contact dermatitis (PACD),² and immunotoxic and neurotoxic reactions.³ As a lipophilic chemical, triclosan bioaccumulates in fatty tissues. A Swedish study finds high levels triclosan in three out of five human milk samples, indicating that triclosan does in fact get absorbed into the body, often in high quantities.⁴ A 2005 study finds triclosan in umbilical cord blood of infants, demonstrating that babies are exposed to triclosan while still in the womb.⁵

Whereas, the medical community advises against household triclosan use.

According to the American Medical Association (AMA) "Despite their recent proliferation in consumer products, the use of antimicrobial agents such as triclosan in consumer products has not been studied extensively. No data exist to support their efficacy when used in such products or any need for them...it may be prudent to avoid the use of antimicrobial agents in consumer products..."⁶

Whereas, the effectiveness of triclosan and antibiotics is reduced by widespread use.

The widespread use of triclosan is reflected in a study conducted by the CDC which showed that 75 percent of urinary samples contained the chemical.⁷ A large number of recent studies have found substantial evidence that triclosan and triclosan-containing products promote the emergence of bacteria resistant to antibiotic medications and antibacterial cleansers.⁸ The AMA reports that at sub-biocidal and bacteriostatic levels resulting from normal use, such as residues that remain up to 12 hours following a hand-washing or tooth-brushing, triclosan is capable of promoting antimicrobial resistant bacteria.⁹ Sterile environments, which triclosan contributes to, are associated with an increased frequency of allergies, asthma and eczema, especially in young children, since the introduction of antibacterial agents early in life can influence allergic sensitization.¹⁰

Whereas, dioxin is a contaminant of triclosan exposed to UV light and chlorine.

Researchers have found that between one and twelve percent of the triclosan in water exposed to sunlight is converted to dioxin, suggesting that sunlight could transform triclosan to dioxin naturally.¹¹ Triclosan-tainted water at water treatment plants exposed to sunlight can convert chlorinated triclosan into highly toxic forms of dioxins.¹²

Whereas, there are serious concerns about water contamination caused by triclosan use.

Over 95% of the uses of triclosan are in consumer products that are disposed of down residential drains.¹³ Since wastewater treatment plants fail to completely remove triclosan from the water and the compound is highly stable for long periods of time,¹⁴ a huge amount of triclosan is emitted into waterways. Research has confirmed this: in a U.S. Geological

Survey study of 95 different organic wastewater contaminants in U.S. streams, triclosan was one of the most frequently detected compounds, and in some of the highest concentrations.¹⁵

Whereas, there are broad concerns about the impact of triclosan on the environment and wildlife.

Triclosan has been found to be highly toxic to different types of algae.¹⁶ Its effluents affect both the structure and the function of algal communities in stream ecosystems.¹⁷ Because algae are the first-step producers in aquatic ecosystems, high levels of triclosan discharged into the environment may cause widespread negative consequences, including “the possible destruction of the balance of the ecosystem.”¹⁸ The risks are especially high immediately downstream from wastewater treatment plants.¹⁹ Because of its lipophilic nature and resistance to degradation, triclosan in waterways is readily available for absorption and bioaccumulation by aquatic organisms in the environment.²⁰ Methyl triclosan, a transformation product of triclosan, has also been found in fish.²¹ Triclosan is found in earthworms.²²

Whereas the efficacy of triclosan for handwashing bacteria is no greater than soap and water.

The Nonprescription Drugs Advisory Committee, which advises the Food and Drug Administration (FDA), voted 11-1 that antibacterial soaps and washes were no more effective than regular soap and water in fighting infections—both work equally as well.²³

Therefore, Be it resolved that:

[The name of town, school board, company, organization] will not procure or use triclosan products, or products containing triclosan or triclocarban.

[The name] will support efforts to educate the broader community about the action it has taken and encourage other entities and households to adopt a similar policy.

[The name] will endorse efforts to ban household and non-medical uses of triclosan by the U.S. Food and Drug Administration (FDA) and the U.S. Environmental Protection Agency (EPA).

¹Durbize E., M. Vigan, E. Puzenat, et al. 2003. Spectrum of cross-photosensitization in 18 consecutive patients with contact photoallergy to ketoprofen: associated photoallergies to non-benzophenone-containing microbes. *Contact Dermatitis* 48(3): 144-149; Strer E., K.J. Koh, and L. Warren. 2004. Severe contact dermatitis as a result of an antiseptic bath oil. *Australasian Journal of Dermatology* 45(1): 73-75; Triclosan: Allergic contact dermatitis following occupational exposure: case report. *Reactions* 1(894): 11; Wong, C.M, and M. H. Beck. 2001. Allergic contact dermatitis from triclosan in antibacterial handwashes. *Contact Dermatitis* 45(5): 307; Perrenoud D. et al. 1994. Frequency of sensitization to common preservatives in Switzerland. *Contact Dermatitis* 30: 276-279.

² Durbize, 2003 (Ref. #22).; Haz-Map <http://hazmap.nlm.nih.gov/cgi-bin/hazmap_search> (Accessed 7/27/04)

³Stafford, J. 1997. Germ Warfare. *Voices, Health and Fiction*. C2-C3, May 5.

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- ⁴ Adolfsson-Erici, M., M. Pettersson, J. Parkkonen, and J. Sturve. 2002. Triclosan, a commonly used bactericide found in human milk and in the aquatic environment in Sweden. *Chemosphere* 46: 1485-1489.
- ⁵ Greenpeace and WWF. 2005. *A Present for Life: Hazardous chemicals in umbilical cord blood*. Colofon, 59 pages. <<http://eu.greenpeace.org/downloads/chem/Umbilicalcordreport.pdf>> (Accessed 10/6/05).
- ⁶ American Medical Association. 2000. Use of Antimicrobials in Consumer Products. Report 2 of the Council on Scientific Affairs (A-00).
- ⁷ Calafat A., et al. 2008. Urinary Concentrations of Triclosan in the U.S. Population: 2003–2004. *Environ Health Perspect.* 116:303–307
- ⁸ Heath, R., et al. 2000. Inhibition of the *Staphylococcus aureus* NADPH-dependent enoyl-acyl carrier protein reductase by triclosan and hexchlorophene. *J. Biol Chem.* 275: 4654-59; Chuanchuen, R., K. Beinlich, T.T Hoang, et al. 2001. Cross-resistance between triclosan and antibiotics in *Pseudomonas aeruginosa* is mediated by multidrug efflux pumps: exposure of a susceptible mutant strain to triclosan selects *nfxB* mutants overexpressing MexCD-OprJ. *Antimicrobial Agents and Chemotherapy* 45: 428-432; Levy, S. B. 2001. Antibacterial Household Products: Cause for Concern. *Emerging Infectious Diseases* 7(Suppl 3): 512-515.
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- ¹¹ Latch, D.E., J.L. Packer, W.A. Arnolda, and K. McNeill. 2000. Photochemical conversion of triclosan to 2,8-dichlorodibenzo-*p*-dioxin in aqueous solution. *Journal of Photochemistry and Photobiology A: Chemistry* 158(1):63-66.
- ¹² BBC News. 2003. Fears over antibacterial ingredient. Published 4-15-03, BBC MMIV. <<http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/2950867.stm>> (Accessed 7/26/04).
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- ¹⁴ Ibid; Adolfsson-Erici, 2002 (Ref. #25); Kolpin, D.W., E.T. Furlong, M.T. Meyer, E.M. Thurman, et al. 2002. Pharmaceuticals, Hormones, and other organic wastewater contaminants in U. S. streams, 1999-2000: A national reconnaissance. *Environ. Sci. Technol.* 36:1202-1211; Lindstrom, A., I.J. Buerge, T. Poiger, P. Berqvist, et al. 2002. Occurrence and environmental behavior of the bactericide triclosan and its methyl derivative in surface waters and in wastewater. *Environmental Science and Technology* 36(11): 2322-2329.
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- ¹⁹ Reiss, 2002 (Ref #38).
- ²⁰ Adolfsson-Erici, 2002 (Ref. #39).
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